



Biodiversity Conservation at the Landscape Scale

A Program of the Wildlife Conservation Society

Supported by the USAID/EGAT Global Conservation Program

Greater Yasuní-Napo Moist Forest Landscape Conservation Area

Annual Report FY 2004

October 2003 – September 2004

I. Summary of Activity Status and Progress

a. Introduction/Summary

The long-term objective of the Wildlife Conservation Society/Biological Conservation at the Landscape Scale (BCLS) Program in the Greater Yasuní-Napo area of eastern Ecuador is to conserve the biodiversity of the Greater Yasuní-Napo Moist Forest Landscape Conservation Area (Figure 1). To accomplish this purpose, the BCLS Program is working with local ethnic groups, public and private sector stakeholders, and private volunteer organizations as partners to develop a landscape strategy and to improve management of the protected areas and biological resources in these lands. Through these partners, BCLS Program staff is working to establish baseline ecological information, provide support for monitoring and design of local-level initiatives, strengthen management of national protected areas, promote change in patterns of resource use, and craft policy initiatives to encourage conservation-compatible land uses in the region. This landscape approach is designed to determine the needs of key wildlife species, assess human subsistence and economic activities across the same landscape, and use the intersection of these elements to focus efforts on those areas and actions which emerge as key conservation conflicts or opportunities. The Kichwa and Huaorani Indians are key local ethnic groups, but BCLS Program includes interventions with the Shuar ethnic group, as well as the *mestizo* colonists, as appropriate. Efforts with indigenous groups will occur in parallel with the strengthening of on-site park management and national institutional structures. This capacity building is intended to increase the ability of park staff to respond to conservation and management needs of the landscape and to build partnerships with local populations.

The work of the BCLS Program in Yasuní is oriented toward strengthening the local capacity of key stakeholders to conserve biodiversity and manage natural resources sustainably in the Yasuní National Park and Biosphere Reserve. BCLS Program work is designed to contribute to a landscape conservation action plan that is coherent and consensus-based. The plan will take into account all major stakeholders, from local resource users to large-scale, industrial entities and it is to be implemented by the Yasuní Biosphere Management Committee. We expect results to include a stop to all illegal activities as well as a reduction in habitat loss, a decline in hunting pressure on landscape species, and the development of capable co-management by public and local institutions. To accomplish this goal, we focus on four interrelated objectives: Establish baselines and monitor landscape species and the landscape context in which they are found; strengthen local, on-site protection and management of biological resources across the landscape; promote the development of national policies that support the landscape conservation approach; and elaborate a participative, integrated landscape conservation action plan.

During this reporting period, BCLS focused on four main activities. First, we continued consolidation of the Yasuní Biosphere Reserve Management Committee and the Technical Advisory Group. Second, we continued promoting and seeking support from international agencies and NGOs (e.g., USAID, Inter American Development Bank, The Nature Conservancy, Conservation International), as well as national institutions (Ministry of the Environment, Ministry of Energy and Mines, ECORAE, Fundación Ambiente y Sociedad) for the Strategic Environmental Assessment (SEA) of the Expansion of the Oil Industry in the Amazon Region of Ecuador. As a result, the Ministry of Energy and Mines is now in the process of developing the terms of reference to conduct an SEA. Third, worked closely with the Ministry

of the Environment and the Yasuní Biosphere Reserve Technical Advisory Group to establish a constructive dialogue with oil companies working in Yasuní and to seek ways to strengthen the management and conservation capacity of Yasuní National Park officials in the long-term. As a result of this work, Petrobras Energía Ecuador has offered to donate a total of US \$3,500,000 to the park, out of which \$1,800,000 will be designated to establish a fiduciary fund. We hope other oil companies working in Yasuní contribute to this fund. Fourth, we conducted biological and human activities monitoring and revised monitoring protocols to improve our ability to characterize conservation threats to the Yasuní landscape. Through monitoring and building upon the baseline information collected earlier, we are assessing conservation threats to landscape species and identifying coherent interventions to protect these species and their habitats. Finally, we provided valuable training to park officials in administration and field monitoring and research methods. Park officials from three protected areas from the Amazon region benefited from this training (i.e., Limoncocha Biological Reserve, Cuyabeno Wildlife Production Reserve and Yasuní National Park). Throughout, we are employing adaptive management as a flexible response to opportunities and unexpected challenges.

In conclusion, the conservation challenges to the Yasuní landscape continue to be numerous and serious, but we have made significant progress in addressing them, especially those dealing with oil-industry-related activities and institutional weakness. As a result of BCLS Program efforts, local Yasuní stakeholders increasingly are working together to enhance the conservation status of this unique landscape. The current level of interest and support from Yasuní stakeholders make us optimistic about the future of the Yasuní landscape.

b. Highlights

- Monitored threats at 12 sites to compile baseline data on the distribution and relative abundance of five landscape species and two species of special interest. (Activity 1.1)
- Compiled and distributed a bibliography of approximately 300 documents that will serve as the basis for the Yasuní Meta-database. (Activity 1.4)
- Based on the management plan of the Yasuní National Park, we developed a program to strengthen the managerial and technical capacity of Yasuní National Park staff and to guarantee the long-term conservation of the protected area.
- Provided technical support to the Ministry of the Environment and six Kichwa Indian communities within Yasuní National Park in the development of natural resource management plans. (Activity 2.1)
- Provided technical and administrative support to the Yasuní Biosphere Reserve Management Committee and developed the committee's bylaws. (Activity 4.2)
- Promoted a Natural Resource Management Plan for the Huaorani Ethnic Reserve with CAIMAN Project and USAID-Ecuador officials. (Activity 4.1)
- Promoted the implementation of the Strategic Environmental Assessment of the expansion of the oil industry in the Amazon Region of Ecuador with Ecuadorian government agencies and international institutions.
- Petrobras Energía Ecuador agreed to donate US \$3,500,000 to Yasuní National Park, out of which \$1,800,000 will be designated to establish a fiduciary fund.
- Promoted the official delimitation of the Taromenane-Tagaeri Intangible Zone with the Ministry of the Environment, ONHAE and CAIMAN Project. (Activity 4.1)
- Continued strengthening inter-institutional relationships with several Ecuadorian organizations. (Activity 4.2)
- Continued working with other members of National Network of Biosphere Reserves. (Activity 4.2)

c. Table of Activity Status

Activity Number	Activity Title	Status	Page Number
Obj. 1	Establish baselines and monitor landscape species and the landscape context in which they are found.		
1.1	Baseline Biological Assessments: Monitoring protocols and initial assessments	On track	4
1.2	Landscape Data Baseline: Meta-database	On track	4
1.3	Baseline and Monitoring of Impacts: Monitoring human activities along roads and rivers	On hold	5
1.4	Landscape Data Baseline: Meta-database	On track	5
Obj. 2	Strengthen local on-site protection and management of biological resources across the landscape.		
2.1	National Park Authority Support	On track	5
2.2	Yasuní Biosphere Reserve Management Committee: Technical and administrative support	On track	6
Obj. 3	Promote the development of national policies that support the landscape conservation approach.		
3.1	Current land policy and institutional context of the Yasuní landscape	On track	7
3.2	Long-term Conservation Financing Strategy: Produce a strategy to seek long-term financing from oil industry	On track	8
Obj. 4	Elaborate a participative, integrated, landscape conservation action plan.		
4.1	Natural Resource Management Plan for the Huaorani Ethnic Reserve: Pending additional funding	Delayed	8
4.2	Strengthening of local constituencies, coordination and contacts	On track	9
Obj.5	New York Coordination Unit Strategy: Guide the design and testing of wildlife-focused planning, implementation, and evaluation tools for effective conservation at a landscape scale, and promote learning across sites and beyond		
5.1	Provide technical assistance to site-based conservation	On track	11
5.2	Design, implementation, and testing of decision support tools	On track	11
5.3	Catalyze cross-site and cross-organizational learning, and communication	On track	12
5.4	Application of Living Landscapes Program tools beyond core sites	On track	13
5.5	Ensure coordination and communication services for the program	On track	14

II. Detailed Description of Progress**a. Key Program Objectives for this Reporting Period (October 2003 – July 2004)**

The principal tasks of the BCLS Program in the Greater Yasuní-Napo Area for this reporting period were to: (a) secure funding and undertake the Strategic Environmental Assessment that will be the basis for negotiating the Long-term Conservation Financing Strategy with the oil sector; (b) develop and help implement a revised Management Plan for Yasuní National Park; (c) undertake biological and human activities monitoring and revise monitoring protocols; and (d) consolidate the Yasuní Biosphere Reserve Management Committee.

b. Activity Description

OBJECTIVE 1: Establish baselines and monitor landscape species and the landscape context in which they are found.

Activity 1.1. Baseline Biological Assessments: Monitoring protocols and initial assessments

During FY 2004, BCLS Program staff conducted standardized relative abundance surveys of landscape species, large bodied terrestrial and aquatic mammals, primates, reptiles, and cracids (large, turkey-like birds) and related wildlife at 12 sites located along the Indillama, Napo, Yasuní, and Tiputini Rivers and along the Via Auca, in the western portion of the Yasuní area. During these surveys we also registered the location and intensity of human activities as well as the type of vegetation cover. This work was conducted with the active participation of different Yasuní park guards who received on-site training in survey techniques (Activity 2.2). The status of this activity is **On Track**. The major highlights of this activity include the following:

- **Monitoring Results:** A total of 12 sites were monitored (6-8 days/site). Ten sites were located along the Indillama River (Indillama), Napo River (Añangu), Yasuní River (Kawimeno, Pichincha, and Tambococha), and Tiputini River (Llanchama, Tiputini Biodiversity, Yasuní Scientific Station, Muyuna, and Mandaripanga) and two along the Via Auca, in the western portion of the Yasuní area. A total of 144 km of terrestrial trails and 480 km of aquatic transects were surveyed. Consistent with last year's results, preliminary analysis of this year's information indicates that the lowland tapir (*Tapirus terrestris*) and white-lipped peccary (*Pecari tajacu*) are especially abundant and widespread in forest habitat with fewer conservation threats. Due to their migratory behavior, peccaries in Yasuní may require conservation actions of a regional nature as a single herd can easily range over 200 km², moving into and out of the park and across the lands of Kichwa and Huorani communities. A preliminary map of Yasuní indicating the extent and intensity of human activities has been produced (Appendix 1).
- **Revised Protocols:** In order to be able conduct statistical analysis, it is necessary to have more than one sample per site, per year. The revised the protocols will allow us to collect data four times per year (rainy and drier seasons), per site, instead of only once a year (drier season). By reducing the number of sites and increasing the sampling frequency we hope to characterize more effectively human activities across the landscape in areas of low, medium, and high human intervention and how they change over time.
- **Training Ecuadorian Biologists:** As a result of our training, Luis Sandoval and Javier Vargas, undergraduate biology students, in landscape species monitoring techniques, data analysis and technical report writing, are now capable of carrying out these activities on their own. Sandoval and Vargas also defended their senior theses in July 2004 and will graduate by the end of the year. Three park rangers also received training and participated in BCLS monitoring (Activity 2.1).
- **Presentation of results:** In July, BCLS Program biologists presented two poster papers at the Society of Conservation Biology Annual Meeting in New York: (a) Intensity and extent of human activities in the Yasuní Biosphere Reserve, Ecuador and applications for wildlife (Appendix 1), and (b) Relative abundance of ungulates along a human activity gradient, Yasuní National Park, Ecuadorian Amazon (Appendix 2).

Activity 1.2. Baseline ecological research: Landscape Species

Some of the activities programmed under this objective were postponed until next year pending the hiring of a new Scientific Coordinator and the completion of strategic planning for the program. During FY 2004, BCLS Program staff, however, continued to work with thesis students Luis Sandoval, Luis Pinos, and Francisco Villamarin in data analysis and report writing. BCLS also worked with Dr. Jordan Karubian (Center for Tropical Research) in a scientific publication on *Ara macao*, development of a new research proposal, and development of a field techniques course. BCLS also has been in contact with biology graduate students and ex-WCS-Ecuador Program interns, Paola Carrera and Jose Fabara, who plan to conduct their master's program research through the BCLS program. The status of this activity is **On Track/Postponed**. The major highlights of this activity include the following:

- **Research Completed:** Three undergraduate biology students who completed their theses on landscape species under the BCLS Program will graduate this year: Francisco Villamarín (black caiman), Luis Pinos (giant river otter), and Luis Sandoval (tapir). In September, both Luis Sandoval and Francisco Villamarin will present their research results in the VI International Congress on Wildlife Management in the Amazon and Latin America in

Iquitos, Peru. Also in September, Luis Pinos will present his research results at the Aquatic Mammal Specialists Meeting in Quito. WCS is one of the co-sponsors of the meeting.

- **Proposed Research:** Two Ecuadorian biologists, José Fabara (who conducted an ecological study of the scarlet macaw in the vicinity of Tiputini Biological Station) and Paola Carrera (who conducted her undergraduate thesis research in the giant river otter (*Pteronura brasiliensis*) in the lower Yasuní basin) are now obtaining their M.Sc. degrees and planning to conduct their thesis research through the BCLS Program. Fabara is at the University of Missouri, Saint Louis, and plans to use GIS technology and BCLS Program data to develop a land use map of Yasuní. Carrera is attending Oregon State University and is designing a research proposal to estimate the significance of the rate of encounters in space and time between humans and giant river otters in hunting and fishing grounds in Yasuní. Dr. Jordan Karubian, Center for Tropical Research (UCLA), in coordination with BCLS Program staff has also developed a research project to equip ten Scarlet Macaws with satellite transmitters and use satellite tracking to monitor movement patterns and habitat use for the lifetime of the transmitter (5 years) in the Amazon Basin. These studies will be conducted next year.
- **Publications:** Dr Jordan Karubian and BCLS staff prepared a scientific paper entitled “Temporal and Spatial patterns of macaw abundance in the Ecuadorian Amazon.” The paper was submitted for publication to The Condor.

Activity 1.3. Baseline and Monitoring of Impacts: Monitoring human activities along roads and rivers

Some of the activities programmed under this objective were postponed until next year. During FY 2004, BCLS Program staff, however, held three working meetings with representatives of the Ministry of the Environment, the Tiputini Biodiversity Station (San Francisco University of Quito), and the Yasuní Scientific Station (Catholic University of Ecuador) to analyze natural resources use conflicts and threats in Yasuní. As a result of these meetings, an integrated monitoring program for the Yasuní Biosphere Reserve will be designed in conjunction with the scientific stations and the Ministry of the Environment to monitor, among others, oil industry activities taking place within the national park.

With regard to monitoring human activities, BCLS Program staff developed two research proposals to study subsistence hunting as well as wildlife markets in Yasuní (Pompey and El Coca). The status of this activity is **On Track/Postponed**.

Activity 1.4. Landscape Data Baseline: Meta-database

During FY 2003, BCLS Program staff continued compiling bibliographic information on Yasuní. The meta database has a total of 400 references, including technical and non-technical reports on biological, anthropological, socio-economic, and oil related issues. The meta database will be made available to the public via a WCS web page on the internet. The status of this activity is **On Track**.

OBJECTIVE 2: Strengthen local, on-site protection and management of biological resources across the landscape.

Activity 2.1. National Park Authority Support

(not in the FY04 Implementation Plan)

During FY 2003, BCLS provided both training and technical support to ministry officials. BCLS offered (two 1-week training workshops for park rangers. A total of 14 park rangers from three protected areas in the Amazon region (5 from Yasuní National Park, 4 from Cuyabeno Wildlife Production Reserve and 5 from Limoncocha Biological Reserve) were taught basic concepts of ecology and conservation biology and were introduced to wildlife field research techniques. Park officials learned how to use a compass and a GPS, became familiar with animal tracks and signs survey techniques, trapping and handling small mammals, line transect surveys and data collection. This is the first of a series of training workshops that will be offered on a regular basis to park officials. The next one will be conducted before the end of 2004. One of the main objectives of this training is to involve park guards in biological monitoring and the management of wildlife and protected areas. In addition to this training, BCLS Program staff also offered park directors and their staff two 3-day training workshops on management and team building (i.e., time,

human resources, and conflict management strategies). A total of 21 park officials from three protected areas in the Amazon (11 from Yasuní National Park, 5 from Cuyabeno Wildlife Production Reserve and 5 from Limoncocha Biological Reserve) participated in these workshops.

BCLS Program staff in close coordination with the Yasuní Biosphere Reserve Technical Advisory Group (TAG: Tiputini Biodiversity Station, Yasuní Scientific Station, FEPP and Fondo Ambiental Nacional) and the Ministry of the Environment developed a program to strengthen the long-term conservation and management capacity of the Yasuní National Park staff. This program is designed to increase the managerial and technical capacity of the park director and staff, secure long-term financing for management plan of the park, and strengthen the management and conservation capacity of the YBR Management Committee. During this process, Park Director Alonso Jaramillo learned strategic planning. Funding for this program is being sought from oil companies working in Yasuní (Petrobras Energía Ecuador, Repsol/YPF, EnCanEcuador S.A.). The status of this activity is **On Track**.

Activity 2.2. Yasuní Biosphere Reserve Management Committee: Technical and administrative support

During FY 2004, BCLS staff continued working closely with the Ministry of the Environment in the constitution of the Yasuní Biosphere Management Committee. During July 14-15 BCLS, FEPP, and the Ministry of the Environment held the fourth Yasuní stakeholder meeting (General Assembly). At this meeting the General Assembly of the Management Committee approved the Committee's bylaws and the mechanism by which it elects board members. At this meeting it was agreed that the Board of Directors will be made up of 7 members: 3 members from the indigenous and mestizo sector, 2 members from the public sector, 1 member from the industrial sector, and 1 member from the non-for-profit private sector. At this meeting there were about 130 participants from 25 institutions.

BCLS program staff, also in coordination with the Ministry of the Environment, FEPP, and other members of the Yasuní Biosphere Technical Advisory Group, coordinated and made possible 12 working meetings with Yasuní stakeholders (4 with the management committee and 8 with oil companies) to analyze current threats to the conservation of Yasuní and identify possible solutions. Working sessions have been primarily focused on three threats: oil industry activities, institutional weakness of the Ministry of the Environment, and illegal logging. With regard to oil development activities, an open and constructive dialogue was established between oil company representatives and members of the YBR Management Committee (i.e., Ministry of the Environment, Tiputini Biodiversity Station, Yasuní Scientific Station, both provincial and municipal governments, and several NGOs and indigenous federations). EnCanEcuador SA and Petrobras Energía Ecuador are in Yasuní. EnCanEcuador SA has three oil concessions in Yasuní, two of which are under seismic exploration. Petrobras has one concession and is in the process of obtaining its environmental license to begin oil development. Petrobras is proposing to build a new road from the Napo River into the park. The YBR Management Committee and Ministry of the Environment officials have closely scrutinized this proposal and have asked Petrobras to evaluate the possibility of undertaking oil activities without building a new road. The environmental license has not been approved yet, pending feasibility studies of other transportation alternatives (i.e., an elevated railroad track). Thanks to these dialogues, both the Ministry of the Environment and the Ministry of Energy and Mines have been analyzing together the Petrobras proposal in the context of the protected area and the biosphere reserve.

With regard to the institutional weakness of the Ministry of the Environment, several Yasuní Biosphere Reserve Management Committee and Technical Advisory Group members are developing a long-term program to strengthen the Yasuní National Park office in El Coca (Activity 2.1.).

Illegal timber extraction is becoming a mayor threat to the park and the biosphere reserve. Huaorani Indians are making illegal deals with loggers to sell valuable timber (primarily *Cedrella* spp.). Ecuadorian law forbids Extraction of this valuable species. Most of the timber is coming out of the park. Huaorani Indians do not respect the authority of either government authorities or Ecuadorian legislation, as they perceive themselves as the sole "owners" of the territory and its natural resources. To address this issue, it would be necessary for the Ministry of the Environment and the armed forces to join efforts in confiscating timber trucks and their illegal cargo. Such actions, however, would be very unpopular with local residents and government official. As an alternative, the Ministry of the Environment could

implement an information and education program so the Huaorani community would understand the implications of the illegal trade they are allowing to take place in the area. WCS Ecuador Program staff is working with the Ministry of the Environment and other Yasuní stakeholders (including some oil companies) and helping to identify short and long-term solutions to this problem.

The status of this activity is **On Track**.

OBJECTIVE 3: Promote the development of national policies that support the landscape conservation approach.

Activity 3.1. Current land policy and institutional context of the Yasuní landscape

During FY 2004 BCLS has worked on four policy issues related with land use and natural resources management in the Yasuní Biosphere Reserve: (a) Natural resources management agreement between the Ministry of the Environment and six Kichwa Indian communities living in the northwestern corner of the Yasuní National Park, (b) Establishment of a government program for the Huaorani Ethnic Reserve to ensure implementation of the management plan, (c) Delimitation of the Taromenane-Tagaeri Intangible Zone, and (d) Structure and function of the Biosphere Reserve Network and the Man and the Biosphere Technical Committee in Ecuador. These activities will help establish natural resources conservation and management regulations at the local regional and national level. This activity is **On Track**. The major highlights include:

- Conservation easements: BCLS program staff and partners reached a cooperation agreement with the Ministry of the Environment and the leaders of six Kichwa communities (Indillama, Pompeya, Nueva Providencia, Sani Isla, Añangu, and San Roque) in the northwestern portion of the park to develop a regional management plan for their territory and on which to base natural resources management regulations that would ensure conservation (or conservation easement). This conservation easement will provide the Kichwa with a legal document that allows them to live in the park and use and manage natural resources according to the management plan. If successful, this experience could be replicated with other Kichwa Indian communities with territories within or near the park and guide natural resource management. The first step will be to develop a management plan that is regional and integrated.
- Government program for Huaorani Ethnic Reserve management plan: BCLS Program staff in coordination with ONHAE (Huaorani federation), Huaorani leaders, and CAIMAN Project representatives have drafted preliminary terms of reference for a project that seeks to assist the Huaorani in the design of an administration system for their ethnic reserve that takes into account the traditions and cultural practices of the Huaorani people. This work will be intimately linked to the development of the management plan of the Huaorani Ethnic Reserve (Activity 4.1).
- Delimitation of the Taromenane-Tagaeri Intangible Zone: When the Intangible Zone was established in 1999, its boundaries were not officially established and the overlap between the Intangible Zone and existing Block 17 (an oil concession now owned by EnCanEcuador S.A.) was never resolved. To secure this protected area, it is necessary to establish the legal boundaries and resolve the conflict with the oil concession. WCS Ecuador Program staff has been working with the Ministry of the Environment, CAIMAN Project, and EnCanEcuador S.A. to develop a cooperative agreement that would delimit this conservation area. WCS Ecuador Program staff will conduct the technical study that will be used to propose boundaries for the zone. The Ministry of the Environment will issue a resolution establishing the limits.
- Biosphere Reserve Network and Man and the Biosphere Technical Committee: BCLS program staff, in coordination with the Ministry of the Environment, UNESCO, and GTZ (German Technical Assistance organization), has played a leading role in establishing the Ecuadorian Biosphere Reserve Network (Red Ecuatoriana de Reservas de Biosfera, REB; Activity 4.2). This network will facilitate the exchange of experiences and lessons learned among these reserves, as well as the endorsement of policies that promote conservation and development at a landscape scale. In this context, REB, Ministry of the Environment, and UNESCO have drafted a ministerial resolution to regulate the Ecuadorian Man and the Biosphere Committee so that it would become more effective in providing technical assistance to the biosphere reserves in Ecuador.

Activity 3.2. Long-term Conservation Financing Strategy: Produce a strategy to seek long-term financing from the oil industry

(not in FY04 workplan)

During FY 2004, BCLS made important progress toward the development of a long-term conservation finance strategy on two fronts: (a) securing long-term financing for Yasuní National Park (Activity 2.1) and (b) promoting a strategic environmental assessment of the indirect impacts of the expansion of the oil industry in the Amazon Region of Ecuador. This activity is **On Track**. The major highlights of this activity include:

- **Long-term financing for Yasuní National Park:** As mentioned under Activity 2.1, BCLS Program staff in close coordination with key Yasuní stakeholders developed a program to strengthen the managerial and technical capacity of the park director and staff, secure long-term financing to implement the management plan, and strengthen the management and conservation capacity of the YBR Management Committee. This program was designed with the purpose of establishing a \$ 10-million endowment fund for the park and to ensure that the protected area receives the necessary resources (US \$500,000/year) to implement the management plan. Funding for this program has been sought from the oil companies working in Yasuní (Appendix_3, proposal). Petrobras Energía Ecuador has agreed to donate \$3.5 million over 10 years as follows: \$1.5 million toward the implementation of the management plan (\$150,000/year), \$1.5 million toward the fiduciary fund, \$200,000 (\$20,000/year) for training of the Ministry of the Environment officials, \$100,000 toward construction of a visitor center in El Coca, and \$100,000 toward community development activities. The Minister of the Environment, the legal representatives of Fondo Nacional Ambiental, and the oil company representative will sign the donation agreement in late 2004. Funds will be managed by Fondo Ambiental Nacional and channeled directly to the park. We hope that other oil companies working in Yasuní will also contribute to the endowment fund and the implementation of the management plan.
- **Strategic environmental assessment:** This strategic assessment is essential, as the Government of Ecuador has been promoting the expansion of the oil industry in the Amazon region without a clear development and conservation strategy, and without receiving any compensation for indirect impacts of the petroleum industry (e.g., unplanned colonization that requires the provision of basic services such as water and electricity). During the first part of this reporting period, we reviewed the terms of reference to conduct a strategic environmental assessment of the indirect impacts of the expansion of the oil industry in the Amazon Region of Ecuador. CAIMAN Project-Chemonics International approved the terms of reference and drafted a contract for US \$170,000 for the study. In January 2004 the contract and terms of reference were presented to USAID-Ecuador for approval. Given the social, political, environmental, and economic sensitivity of the study, the US Embassy in Ecuador requested BCLS Program staff, via USAID Mission Director Lars Klausen, to develop a stakeholder consultation strategy to ensure adequate participation and public consultation. BCLS Program staff worked with Jorge Alban, Executive Director of Fundación Ambiente y Sociedad, and prepared a document analyzing the sociopolitical context in which the oil industry has been developed in the country, characterizing the stakeholders by sector (e.g., public, private, and industry) and outlining a consultation strategy (Appendix_4, SEA Consultation strategy). This document was presented to USAID-Ecuador in February. Approval of this study by USAID is pending additional consultations with officials from International Development Bank, Ministry of Energy and Mines, ECORAE, and oil company representatives.

OBJECTIVE 4: Elaborate a participative, integrated landscape conservation action plan.

Activity 4.1. Natural Resource Management Plan for the Huaorani Ethnic Reserve: Next steps and proposal development

During FY 2003, BCLS met with Huaorani officials (especially with Armando Boya, ONHAE President; *Organización de Nacionalidad Huaorani de la Amazonía Ecuatoriana* [Organization of Huaorani Nationality from Ecuadorian Amazon]) and CAIMAN Project staff (namely Joao Queiroz, director) to discuss potential collaboration on a Natural Resource Management Plan for the Huaorani Ethnic Reserve that comprises about 25% of the Yasuní landscape and delimitation of the Taromenane-Tagaeri Intangible Zone that comprises about 30% of the Yasuní

landscape. CAIMAN is very interested in promoting these activities in collaboration with WCS-Ecuador Program. The status of this activity is **On Track**. The major highlights of this activity include the following:

- Management plan and administration system for the Huaorani Ethnic Reserve: BCLS and CAIMAN have drafted a preliminary version of the terms of reference to work on the management plan, as well as the design of an administration system that would ensure natural resources management governance (Activity 3.1). BCLS has held four meetings with ONHAE and CAIMAN officials. BCLS hopes to sign an agreement with CAIMAN and begin implementation before the end of the year.
- Delimitation of the Taromenane-Tagaeri Intangible Zone: BCLS staff has coordinated and made possible four meetings with the Ministry of the Environment, CAIMAN Project officials and EnCan representatives to promote official delimitation of the Intangible Zone. As a result, a Ministerial Resolution was issued establishing an official commission integrated by the Ministry of the Environment, the Ministry of Energy and Mines, and CODENPE [National Indigenous Federation] to analyze and agree on the final limits of this territory. An inter-institutional cooperative agreement between the Ministry of the Environment, CAIMAN Project, EnCanEcuador S.A., and WCS Ecuador Program was also developed (Appendix_5, Agreement). Under this agreement, the Ministry of the Environment will lead the political process to approve the boundaries, CAIMAN will finance the technical study, EnCan Ecuador S.A. will provide a high resolution satellite image (Ikonos) and two helicopter flights over the zone, and WCS-Ecuador Program will conduct the technical study and develop a communication strategy. The study will be based on satellite image analysis and two helicopter flights over the area to identify sites used by Taromenane-Tagaeri Indians who are nomadic hunters and gatherers. This study will take place before the end of the year.

Activity 4.2. Strengthening of local constituencies, coordination and contacts

During FY 2003, BCLS held meetings to strengthen relationships between partners and community officials involved in the planning process for the Yasuní Biosphere Reserve. Close coordination and contacts are absolutely critical to the success of the Yasuní Living Landscapes Program. The status of this activity is **On Track**. The major highlights of this activity include the following:

- Community Coordination Meetings: BCLS worked closely with FEPP and other members of the Yasuní Biosphere Reserve Technical Advisory Group to coordinate five meetings with Yasuní Biosphere Reserve Management Committee Directory to plan short-term activities. As a result of these meetings, oil company representatives were brought together to analyze current and future threats to conservation derived from the oil industry (see also Activities 2.1, 2.2, and 3.2.). Oil companies now acknowledge and support the Yasuní Biosphere Reserve Management Committee and the Technical Advisory Group as local entities with whom to coordinate and plan both conservation and development activities in the area.
- Inter-institutional Relationships: (a) FEPP (El Coca Regional Office) and BCLS evaluated the cooperative work plan to coordinate activities in the Yasuní landscape and developed a revised list of activities and date. Joint activities conducted under this agreement included providing technical assistance to Ministry of the Environment officials and six Kichwa Indian communities in the development of a natural resources management plan for six Kichwa Indian communities (Activity 3.1), National Park Authority Support (Activity 2.1), Yasuní Biosphere Reserve Management Committee (Activity 2.2), and Land Policy and Context of Yasuní Landscape (Activity 3.1). (b) CAIMAN Project will support BCLS Program to conduct the Natural Resource Management Plan and an Administration System for the Huaorani Ethnic Reserve (Activities 3.1 and 4.1) and the delimitation of the Taromenane-Tagaeri Intangible Zone (Activities 3.1 and 4.1). (c) The Yasuní Biosphere Reserve Management Committee continued learning about the Sumaco Biosphere Reserve process (Activity 2.2). This relationship was formalized through the creation of the National Network of Biosphere Reserves with the participation of the Yasuní, Sumaco, and Galápagos groups (see National Level Initiatives, below). (d) Representatives from Petrobras Energía Ecuador (Block 31) and EnCanEcuador S.A. (Blocks 14, 17, and 27) in a series of eight meetings conducted between November of 2003 and May 2004 have committed to conduct oil exploration and exploitation in the Yasuní landscape in an environmentally and socially friendly manner as well as to provide financial support to the protected area. BCLS will continue working with the Ministry of the Environment to make sure that oil companies working in Yasuní meet their obligations. (e) FEPP, UNESCO, and BCLS produced a 45-minute video about the Yasuní Biosphere Reserve. This video will be made available to local stakeholders and

used in environmental education programs to increase local awareness of the biosphere reserve. (f) In cooperation with FEPP, VAA (*Vicariato Apostólico de Aguarico*; Apostolic Vicarship of Aguarico), and CIBT (*Centro de Investigación de los Bosques Tropicales*; Tropical Forest Research Center), BCLS prepared a concept paper and project profile entitled “Conservation and Development in the Lower Napo River Basin (Ecuador).” This concept paper was submitted to USAID-GDA in early 2003, but was not approved at that time. A revised version will be presented to USAID-GDA for a later funding cycle.

- National Level Initiatives: BCLS continued to work with UNESCO, GTZ and the Ministry of the Environment in the definition of the functions and structure of the Ecuadorian Network of Biosphere Reserves (*Red Ecuatoriana de Reservas de Biosfera, REB*). This network includes Yasuní, Sumaco, and Galápagos Biosphere Reserves. The purpose of the network is to facilitate the exchange of experiences and lessons learned among reserves, as well as to endorse policies that promote conservation and development at a landscape scale. As a result of this effort, the Ministry of the Environment is now considering the inclusion of biosphere reserves into the Biodiversity Law now in Congress.
- Within the biosphere reserve network context, BCLS, Ministry of the Environment, GTZ, and UNESCO have drafted a ministerial resolution that regulates the Ecuadorian Man and the Biosphere Committee so it becomes more effective in providing technical assistance to biosphere reserves in Ecuador (Activity 3.1).

c. Key Management Issues

In previous reports, we have commented on changes in the structure and personnel of the Ministry of the Environment and how those events were having a negative impact on our efforts in the region. During FY 2004, there were essentially no improvements in those matters despite BCLS efforts:

- Personnel changes in the Ministry of the Environment continue to be the norm. The Ministry of the Environment has had two different ministers within the past year. In March 2004, Fabian Valdivieso, the current minister, replaced César Narváez. As result, progress on all important environmental issues, such as the proposed “Biodiversity Law”, has been delayed. In response, we continue to work with ministry officials in Quito, Lago Agrio, and El Coca. Nonetheless personnel changes tend to delay BCLS program activities.
- BCLS made excellent progress with Yasuní Park Director Alonso Jaramillo who took the leadership role in the consolidation of the Yasuní Biosphere Reserve Management Committee and promoting constructive coordination among Yasuní stakeholders. Thanks to Alonso’s active participation, we were able to develop a program to strengthen the long-term conservation and management capacity of the Yasuní National Park staff (Activities 2.1. and 2.2) and provide the basis for securing long-term financial support for Yasuní from the oil companies (Activity 3.2.). In May Carlos Aguirre Cox, Director of the district office, decided without justification, in our opinion, to replace Jaramillo and assign Vicente Valarezo to the position. As a result, BCLS has had to initiate a new institutional relationship with the new park director.
- The national, regional, and local leadership role of the Ministry of the Environment is weak. Most problems that have plagued the park since its creation in 1979 continue, for example: budgetary, technical, and personnel problems. The base annual budget of Yasuní National Park is \$6,000. While the Government of The Netherlands, through Ecuador National Environmental Fund, has provided an additional \$45K, those monies are insufficient to meet the annual needs of the park (estimated at \$500,000). Until additional funds are obtained on a long-term basis, conservation and management activities by park officials will be severely limited. BCLS Program staff seeks to strengthen both the park’s office in El Coca and the District’s office in Lago Agrio. Given their limited technical expertise, BCLS will continue working with the park director and the Yasuní Biosphere Reserve Management Committee to seek the necessary funds to secure the long-term financial stability of the park and to strengthen the technical and managerial capacity of park officials.
- The problem with Kichwa Indian settlements along the Tiputini River complicates several key management issues. First, neither the ministry nor the six affected communities honored an agreement made in 1997 to prepare individual community management plans that would be the basis for conservation easements so that the communities could continue to occupy their lands within Yasuní National Park. Second, in 2001 the ministry gave informal approval to an illegal occupation of park lands by Kichwas from the Loreto region outside of the Yasuní area. BCLS is working with the Ministry of the Environment and FEPP to resolve this land-tenure conflict (Activity 3.1.).

- The Huaorani people occupy a large and biologically important portion of the Yasuní landscape, but are not active participants in the protection of their lands. One factor is that many Huaorani are ignorant of the several conservation threats to the area and do not feel that their lands are endangered due to the indirect impacts generated by the development of the oil industry. Second, Huaorani community representatives generally are not accustomed to working together for the common good. Third, the Huaorani people do not recognize the environmental legislation and do not acknowledge the authority of Ministry of the Environment officials. And fourth, ONHAE, the Huaorani Federation, is administratively weak. This makes it difficult for organizations, such as BCLS, to undertake conservation and research activities in the Huaorani Ethnic Reserve. To address those problems, we are reaching out to other organizations – including CARE, CAIMAN Project, and *Fundación Sobrevivencia Cofán* – to identify and implement appropriate solutions, including the development and implementation of the Natural Resource Management Plan for the Huaorani Ethnic Reserve and the design of an administration system (see Activity 4.2). This effort likely will continue over several years.

OBJECTIVE 5: New York Coordination Unit Strategy: Guide the design and testing of wildlife-focused planning, implementation, and evaluation tools for effective conservation at a landscape scale, and promote learning across sites and beyond

The NY-based Coordination Unit (CU) of the program is designed to develop and test wildlife-based, landscape-scale approaches to biological conservation across multiple sites. To ensure the widespread utility of these new conservation approaches, the program is testing them within landscapes that encompass a diverse array of land-uses, resource-use issues, and jurisdictional arrangements. To develop new approaches, facilitate and harmonize testing and implementation among these core sites, and capture the synergistic benefits of diverse experiences, a central coordination unit is charged with designing and managing the program. This unit guides development of landscape-scale conservation strategies, tools and techniques; assists in the design and development of cost-effective intervention and monitoring programs at these sites; promotes cross-site learning; and ensures communication among the sites, WCS staff (central and field), USAID (DC and missions), and the larger conservation community.

The New York CU team consists of a program director, two landscape ecologists, an outreach/communications coordinator, socio-economic monitoring specialist, biological monitoring specialist, two geographic information systems (GIS) analysts, program coordinator, and administrative assistant. Four of these positions are new WCS investments to the program this year, indicating increased WCS commitment to the development and use of landscape tools for site-based conservation. These new positions also indicate a shift in responsibilities, increasing our ability to extend the tools we are developing to a larger array of conservationists.

During FY 2004, the Coordination Unit in New York achieved most of its objectives for the year. Although the majority of the CU work is embedded in objectives 1-3 of this and other site-specific reports, the following section highlights some of those achievements that are not fully captured in these sections.

Activity 5.1 Provide technical assistance to site-based conservation

Coordination Unit support to field site operation has been reported in detail in previous sections of this report.

Activity 5.2 Design, implementation, and testing of decision support tools

Activity 5.2.1 Living Landscapes Program Technical Manuals

The Living Landscapes Program promotes the implementation of effective conservation projects by encouraging practitioners to: (1) be explicit about what we want to conserve, (2) identify the most important threats and where they occur within the landscape, (3) strategically plan our interventions such that we are confident that they will help abate the most critical threats, and (4) put in place a process for measuring the effectiveness of our conservation actions, and using this information to guide our decisions. Towards this end, LLP has launched a series of manuals that provides guidelines and step-by-step instructions for field practitioners. These will cover topics that include how to: select landscape conservation targets (landscape species), identify and map key threats, prepare a conservation strategy (conceptual model), and develop a monitoring framework. The manuals will be available in English, Spanish, and French.

To date, we've designed and piloted two manuals: one concerning participatory spatial assessments of human activities, and another focusing on how to build conceptual models for a project Belize (see Appendices 7&8 for latest versions¹⁾ ²⁾. We've distributed these within our GCP sites, and more broadly within WCS. In the next few months, after final revision, the manuals will be distributed more widely to our GCP partners and the wider conservation and development community. The threats assessment and mapping manual has already attracted external attention and is the basis for LLP providing technical assistance to the Coastal Zone Management Authority and Institute of Belize, the Belize Audubon Society, and World Wildlife Fund to conduct threats assessments of, respectively, the Turneffe Atoll, Lighthouse Reef and the barrier reef system in. Manuals on building monitoring frameworks, selecting conservation targets, and on intervention priority-setting are currently in draft form and will be field tested and finalized within the next six months.

Activity 5.2.2 Landscape species approach (LSA) progress

Based on the experience of the several WCS sites that have selected Landscape Species as strategic conservation targets, the landscape ecologist and the biological monitoring specialist are coordinating the revision of the logic for selecting species and the accompanying selection software. We expect to complete a major revision of the software (version 2.0) in November 2004 and distribute it to all sites planning to select landscape species.

The program has made significant progress in implementing the Landscape Species Approach, and a number of sites have generated biological and human landscapes, and developed a strategic monitoring program. There is still work to be done most importantly to develop a defensible process for setting population targets and combining this with estimated area requirements and habitat preferences to characterize the size and configuration of landscapes sufficient to conserve each landscape species – and thus the other species that they represent.

Finally, the assumptions underlying the LSA have yet to be tested from a theoretical standpoint. Towards this end, the Landscape Ecologist and other program staff tackled the question as part of the Annual meeting (See Activity 5.3.1). The results from the exercise that selected landscape species from a 30-year enforcement data set collected in Ghana were presented to the group. As mentioned in the last annual report, the preliminary results suggest that landscape species are among the most vulnerable to human threats, and that successful conservation of landscape species will protect other, less sensitive and less area-demanding species. The meeting participants proposed a number of additional tests and they will be further fleshed out and will form part of the ongoing LSA design process.

Activity 5.3 Catalyze cross-site and cross-organizational learning, and communication

Activity 5.3.1 Third Living Landscapes Program Annual Meeting

The Third Annual Meeting of the Wildlife Conservation Society Living Landscapes Program took place at Chico Hot Springs, MT from January 10-18 2004, bringing together expanded LLP staff from the field and New York. The number of core sites for the Living Landscapes Program has expanded from three sites to the current twelve (which includes the six USAID/GCP-funded sites): Yasuni in Ecuador; Ndoki-Likouala in Congo; Madidi in Bolivia; Maya Biosphere Reserve in Guatemala; the Eastern Steppe of Mongolia; Glover's Atoll in Belize; Greater Yellowstone in USA; Northern Plains of Cambodia; the Adirondacks in USA; San Guillermo in Argentina; and Coastal Patagonia. Each site (with exception of Ecuador and Patagonia) was represented by one or two staff members.

The program has done significant design and implementation work on selected conservation planning tools (conceptual models for projects, threats analyses, landscape species analyses, monitoring frameworks), and the meeting provided a venue for all the projects to share experiences and weigh in on the development of the remaining conservation tools (setting priorities within our "conservation landscapes" and/or determining target levels for "healthy, functioning populations"; sorting out priorities for interventions; determining how to operationalize monitoring programs). Proceedings of the meeting were compiled and distributed to participants. A copy is available upon request.

Activity 5.3.2 CMP: leadership, design, writing and audits

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WCS continues to play a leadership role in the direction and activities of the Conservation Measures Partnership. WCS is working with CMP on: (1) piloting conservation audits, (2) evaluating the challenges to and benefits from accounting systems that allocate spending to conservation actions and not simply goods and services purchased, (3) developing a user-friendly system for identifying appropriate indicators for measuring conservation impacts, and (4) pilot testing tools that help project's implement the CMP open standards for the practice of conservation. Craig Groves (part-time CU staffer) participated in the design and implementation of two multi-partner pilot conservation audits (led by WWF International) and David Wilkie (the socio-economic monitoring specialist) is organizing a pilot multi-partner, peer-review audit of the GCP Glover's Reef project in FY05.

Activity 5.3.3 Cross-organizational Learning Initiative

David Wilkie chaired the GCP Cross-organizational Learning panel during the first year of its implementation. Funded through a separate Associate Award under the current Cooperative Agreement, the initiative gives GCP partners the opportunity to plan and implement joint activities that promote learning.

Activity 5.3.4 Synthesis of Lessons from site-based conservation

5.3.4.1. Analysis of the ecological risks and the economic and administrative feasibility of legalizing the commercial trade in bushmeat

In response to the Government of Gabon's stated interest in legalizing the commercial trade in wildlife as a way to regulate the trade and generate tax revenues, LLP staff in collaboration with WCS Gabon and the Ministry of Wildlife and Hunting undertook an analysis of the ecological risks and the economic and administrative feasibility of such a proposal. Results, based on a comprehensive national survey of bushmeat trade and consumption, showed that even a 25% tax on the sale of bushmeat would be insufficient to cover tax collection costs, let alone the additional costs of enforcing the new tax laws. A paper describing the analysis is in press in the *Journal of International Wildlife Law and Policy*.

5.3.4.2. Local engagement in conservation survey

The design for surveying a suite of WCS projects in the hope of teasing out guiding principles for engaging local people to promote effective conservation of wildlife and wildplaces is largely complete. A survey instrument has been drafted, and a review of the literature to determine what guidance is offered to conservation practitioners to engage local people in wildlife conservation is in progress. The survey work should be complete within the next six months. Analysis of the survey results and literature will produce a set of principles that other WCS project staff can use as a decision support tool to guide how they might engage local people in conservation at their site.

Activity 5.4 Application of Living Landscapes Program tools beyond core sites

As we highlighted in the last Annual Report, the initial work supported by USAID/GCP continues to provide the foundation for a growing number of sites using WCS/Living Landscapes Program tools around the world, and the multiplier effect of USAID/GCP support has been significant.

5.4.1 Training workshops in the use of LLP tools

Over the past few months, we have conducted a number of workshops at various field sites around the world that have centered on the use of conservation tools developed by the program. Adrian Treves (the outreach coordinator), and Kart Didier (the Landscape Ecologist) ran threats assessment workshops in Madagascar and Patagonia, Argentina. Adrian Treves also ran a joint landscape species selection workshop for field practitioners in Democratic Republic of Congo, Uganda, and Rwanda. Each of the above workshops included participants from national governments and NGOs of each of the countries cited. In each case, we have been gratified by the interest and commitment shown to the use of these tools by conservationists from other institutions, and look forward to conservation results that will stem from their use.

David Wilkie ran a workshop that entailed a spatially explicit threats assessment of Glover's Reef, Belize with local fishers, city council representatives, tour operators, fisheries cooperative members, biologists, government staff and NGO staff. Based on the results of this successful workshop, the Belize Audubon Society, WWF, and Belize Coastal Zone Management Authority and Institute have requested that we lead similar workshops for two other atolls in the

Belize Reef system - Turneffe and Lighthouse Reefs, and the Barrier Reef as a whole. Outside funding has now been secured for these workshops and they will be run jointly by WCS, Belize Audubon Society, WWF, and CZMAI during September and October, 2004.

Similarly, Amy Vedder (program director) and David Wilkie led a workshop in Tefe, Brazil during April, with a series of eight Amazonian-Andes projects focusing on design of conceptual models and monitoring frameworks for their projects (six projects in addition to 2 GCP sites, two of which are managed by Brazilian NGOs). The approach was highlighted in an article published in the Economist (June 17 2004) (see Annex 8 for a copy of the article).

5.4.2 Gap Analysis in Bolivia

The Bolivian Government has embarked on a national level GAP analysis exercise to determine the effectiveness of the country's protected area system and to see if other vital areas should be set aside to ensure comprehensive conservation. In addition to an analysis of representation of different vegetation types in the protected area system, as well as an identification of biodiversity and endemism areas to be carried out by a consortium led by FAN, a leading Bolivian NGO, collaboration with the WCS Bolivia program will strengthen the focus on Landscape Species which are not valued by models based on diversity.

The exercise will involve the use of WCS's Landscape Species Approach for two different, but related purposes. First, existing protected areas will be evaluated to determine if they require further connectivity to ensure that wildlife needs are met. Second, an overall analysis will be done to identify national-scale Landscape Species and the scale of conservation activities necessary for their conservation (combinations of new protected areas, enlarged protected areas, functional corridors, regulation outside these reserves that promote conservation of the identified species, and international cooperation as determined necessary). The involvement of the WCS Bolivia Program in this important exercise and the application of the Landscape Species Approach by the government represents a significant endorsement of the utility of the Landscape Species Approach that WCS-Bolivia and the Living Landscapes Program have developed. Already there is interest expressed by conservationists in Argentina and Canada in using these national-scale techniques.

5.4.3 Sharing of conservation tools among conservation NGOs

We are pleased to see that many elements of conservation planning tools being used or proposed by other conservation organizations are similar to those developed by the Landscape Species Approach. A number of our bulletins have been cited in a recent publication of the World Wildlife Fund: *From the Vision to the Ground: A guide to implementing ecoregion conservation in priority areas*³ that outlines steps for conservation planning at priority sites within ecoregions. Our LSA concept of spatially mapping biological landscapes and human (social) landscapes, and then integrating the two to create a conservation landscapes is very much in line with those proposed by WWF as a means to identify conflicts and priorities for conservation action. Similarly, Conservation International in their proposed strategy for designing biodiversity conservation strategies - *Conserving the Earth's Living Heritage* - note the importance of "Landscape Species" as important tools for conservation planning and targets for conservation action, and advocate for the use of "conceptual models" to explicitly demonstrate how conservation actions are designed to abate key threats and thus conserve the targets of our conservation actions. These examples are further indication of the value of developing strategic wildlife-based tools for planning and implementing large scale, site-based programs, and sharing these tools both within WCS and more broadly across the conservation community.

Activity 5.5 Ensure coordination and communication services for the program

During this reporting period, all USAID reporting deadlines were met in a timely fashion. Annual Performance Monitoring Plans were prepared by field staff, and submitted by the program coordinator. Yemi Tessema (program coordinator), Amy Vedder, and David Wilkie collaborated in the preparation and attendance of annual GCP meeting in March.

³ http://www.worldwildlife.org/science/pubs/vision_to_ground.pdf

Hard copies of the bulletins, resource CDs, and other information on sites and the program were distributed upon request as well as at workshops led and attended by program staff. Electronic copies of the materials were also made available on our website.

III. Success Stories and Appendices

Success Stories

- Long-term Conservation Financing Strategy: BCLS won support by CAIMAN Project to conduct a Strategic Environmental Assessment of the long-term cumulative indirect impacts of the oil industry. Final approval by USAID/US Embassy officials, however, is pending. Our assessment will provide the baseline information necessary to characterize and quantify the indirect impacts of petroleum-related activities in Ecuador, as well as to design a program to prevent, control, and mitigate those impacts. If approved by USAID-Ecuador, the assessment will be financed by CAIMAN Project (\$172,000; Activity 3.2.).
- Long-term legal security in Intangible Zone: As mentioned earlier, when the Intangible Zone was established in 1999 to protect the Taromenanne and Tagaeri (two uncontacted Huaorani groups) from extractive activities, its boundaries were not officially established and the overlap between the Intangible Zone and existing Block 17 (an oil concession now owned by EnCanEcuador S.A.) was never resolved. To legally secure this protected area, it is necessary to (a) establish the official boundaries, (b) resolve the conflict with the oil concession by giving EnCanEcuador S.A. another oil producing area in a different location, and (3) issue the necessary legislation to protect this area forever. Thanks to BCLS diligent work, the Ministry of the Environment, CAIMAN Project, EnCanEcuador S.A., and WCS have agreed to work together officially delimit the intangible zone and ensure its long-term protection (Activities 3.1 and 4.1.).
- Yasuní Institutional Strengthening program: Based on the Yasuní Management Plan and needs assessment, BCLS, coordinated the design of a program to strengthen institutional capacity of the local office of the Ministry of the Environment and the Yasuní Biosphere Management Committee in the long-term: Over a series of meetings with Ministry officials and oil company representatives, a donation of \$3.5 million was committed to the park by Petrobras Energía Ecuador (Activity 3.2.). The objective is to establish a \$10,000,000 fiduciary fund for the park.
- The biological and human landscapes are the two pillars of the BCLS Program and the living landscape approach. In our case, the Yasuní landscape covers approximately 2,800,000 ha (*ca.* 1770 square miles). To date, BCLS Program staff members – including two young Ecuadorean biologists trained in monitoring techniques -- have conducted 3 years of biological monitoring at 12 sites, primarily in the northern portion of the Yasuní landscape. Through day and night surveys conducted along terrestrial and aquatic transects, we have compiled baseline information on the distribution and relative abundance of our five landscape species and two species of special interest, as well as approximately 50 other species of birds, mammals, and reptiles. Landscape species are generally less abundant in the northern portion of the landscape – versus the central or eastern areas -- due to hunting and agriculture. As we enter our fourth year of biological monitoring (final decision pending), a new protocol will be implemented: four sites will be monitored four times each to take into account the full range of environmental conditions during the year. Detailed information on associated human activities (e.g., hunting, fishing, timber harvest, and petroleum activities) will also be recorded. A preliminary analysis of monitoring will be prepared by late 2004.
- Yasuní Biosphere Reserve Management Committee: Informed local participation is a key component of the living landscape approach. In Yasuní, BCLS Program staff has promoted the formation of the Yasuní Biosphere Reserve Management Committee (25 institutions). FEPP and BCLS are permanent, non-voting advisors to the committee. At the most recent meeting of the group (May 2004), members approved the bylaws of the committee and agreed on the mechanism to elect board members. The Board of Directors will be composed of 7 members: 3 from the indigenous and *mestizo* communities, 2 from the public sector, 1 from the private industry sector, and 1 from the non for profit sector (Activity 2.2.).
- One of the main objectives of BCLS Program is to strengthen local, on-site capacity to protect and manage biological resources across the Yasuní landscape is. Two young investigators working under the BCLS Program were awarded Fulbright scholarships during 2003 due – in part – to their studies on landscape species in the Yasuní landscape. Paola Carrera and José Fabara are now developing proposals to conduct their master's program research in the Yasuní area.
- BCLS and FEPP have been making good progress in the design of regional and integrated management plan for the six Kichwa communities settled in the northwestern corner of the park. The management plan and the conservation easement agreement will be completed before the end of the year Activity 3.1.).

APPENDICES:

APPENDIX 1: Biological Monitoring and human interventions results

APPENDIX 2: Biological Monitoring and human interventions results °

APPENDIX 3: Long-term Institutional strengthening program

APPENDIX 4: SEA Consultation Strategy

APPENDIX 5: Intangible Zone delimitation – Inter-institutional Cooperation Agreement

APPENDIX 6: LLP Technical Manual 1: Participatory spatial assessment of human activities-a tool for conservation planning

APPENDIX 7: LLP Technical Manual 2: Creating Conceptual Models-a tool for thinking strategically

APPENDIX 8: Economist article – Peering at the future